

**CLAIMS**

1. A method of constructing a thin film mirror, which method comprises:

- (i) providing a suction chamber with edges which lie on a required mirror surface;
- (ii) providing tensioning means which is forced into contact with film adjacent to at least one of the edges of the suction chamber such that tension in the film parallel to the edge is increased; and
- (iii) providing holding means for
  - (a) holding the tensioning means;
  - (b) locally adjusting holding pressure on the tensioning means; and
  - (c) feeding the tensioning means into position after the film has been attached to the suction chamber.

2. A method according to claim 1 in which the tensioning means is a rod.

3. A method according to claim 2 in which the rod is of circular cross section.

4. A method according to claim 3 in which the rod is a tube.
5. A method according to claim 4 in which the tube is a semi-rigid tube.
6. A method according to claim 1 in which the holding means has a first portion for extending over the tensioning means, and a second portion for extending under the suction chamber.
7. A thin film mirror when produced by a method according to claim 1.